

SUPPLEMENTAL SPECIFICATIONS

WSF 001

MARINE COATING AND COLOR SCHEME SPECIFICATIONS

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
FERRIES DIVISION**

SUPPLEMENTAL SPECIFICATIONS

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SPECIFICATIONS**

Revised 01/07

1. PREPARATION AND APPLICATION

References: These references are applicable only to the extent specified herein.

- A. Visual Standard for Abrasive Blast Cleaned Steel [SSPC-VIS-1-89]
- B. Visual Standard for Power and Hand Tool Cleaned Steel [SSPC-VIS-3]
- C. Steel Structures Painting Manual, Volume 2, Systems and Specifications [Fifth Edition]
- D. Paint Manufacturer's Specification.

Steel Structures Painting Manual, Volume 2, Systems and Specifications [Fifth Edition], Chapter 2, titled Surface Preparation Specifications, shall be used to define the degree of surface preparation as required by the Specification.

SSPC-SP 12 /NACE5 Surface Preparation and cleaning of Steel and Other Hard Materials by High-and Ultrahigh-Pressure Water jetting Prior to Recoating. SSPC Publication No.96-05.

Visual Standards SSPC-VIS-1-89 and SSPC-VIS-3 form a part of this Contract and will be used to judge the adequacy of the surface preparation.

Surface preparation specified to be SSPC-SP10, "Near-White Blast Cleaning", shall be to SSPC Surface Preparation Specification No. 10 as defined in Chapter 2 of SSPC Volume 2.

Surface preparation specified to be SSPC-SP6, "Commercial Blast Cleaning", shall be to SSPC Surface Preparation Specification No. 6, as defined in Chapter 2 of SSPC Volume 2.

Surface preparation specified to be SSPC-SP7, "Brush-off Blast Cleaning", shall be to SSPC Surface Preparation Specification No. 7, as defined in Chapter 2 of SSPC Volume 2.

- 1 Surface preparation specified to be SSPC-SP3, "Power Tool Cleaning", shall be to
2 SSPC Surface Preparation Specification No. 3, as defined in Chapter 2 of SSPC
3 Volume 2.
- 4 Surface preparation specified to be SSPC-SP11, "Power Tool Cleaning to Bare
5 Metal", shall be to SSPC Surface Preparation Specification No. 11, as defined in
6 Chapter 2 of SSPC Volume 2.
- 7 The WSF Inspector will designate the areas to be surface prepared, painted and the
8 paint color/colors to be used unless otherwise designated in the Specifications.
- 9 The Contractor shall grit blast the areas designated in each area to SSPC-SP6,
10 unless otherwise designated in the Specifications.
- 11 Existing paint coating bordering spot blasted areas shall be feathered to achieve a
12 smooth transition appearance, ensuring that edges are feathered to make a smooth
13 visual appearance to existing coating and that no rough or sharp edges can be seen
14 between existing and newly applied paint.
- 15 Grit blasted surfaces or any prepared surfaces shall have a profile depth of 2 to 4
16 mils.
- 17 Immediately after grit blasting clean affected spaces and surfaces of blasting
18 material and residue.
- 19 The blasted areas shall be coated the same day with paint to hold the blast. If the
20 blasted areas cannot be coated before the surface remains exposed overnight, sand
21 sweep to remove rust bloom prior to applying the paint.
- 22 Care must be exercised to see that dust and grit are not imbedded in soft paint in
23 the areas adjacent to the blasting.
- 24 Prior to coating application, ensure that all surfaces are dry and free of foreign
25 matter.
- 26 Surface Preparation and Paint Coating applications are to be in accordance with
27 the Paint Manufacturer's Specifications, using either airless spray or conventional
28 spray equipment. The back sides of angles, edges of structural shapes, and areas
29 that are incapable of being properly covered by using conventional or airless spray
30 equipment shall be hand-brushed to insure that the minimum dry film thickness is
31 obtained.
- 32 Thinning is not normally required or desirable, and shall not be done unless
33 authorized by the WSF Inspector. Solvents used for thinning and cleaning shall be
34 in strict accordance with the coating manufacturer's recommendations, and shall be
35 handled, stored, and disposed of in strict accordance with current laws, rules, or
36 regulations, whether local, State, or Federal, pertaining to toxic and/or hazardous
37 waste.
- 38 Dry Film Thickness (DFT), where specified, is the minimum dry film thickness in
39 mils.
- 40 Where both film thickness and number of coats is specified, both requirements
41 must be fully met.

1 Instruments used to measure film thickness shall have been recently calibrated in
2 accordance with SSPC-SP-PA2, and shall be routinely re-calibrated if requested by
3 the WSF Inspector.

4 Particular attention shall be paid to the temperature and humidity conditions at the
5 time of application.

6 Keep surfaces clean and moisture-free during the coating process and during the
7 curing period.

8 Prior to the application of any follow-on coat, thoroughly clean and build up any
9 bare or lightly covered spots in the previous coat to the required thickness. Dirt,
10 drips, runs, and sags are to be removed prior to follow-on coating application.

11 The finish coat is to completely obscure the undercoat, and be free of surface
12 imperfections such as dirt, drips, runs, sags, dry spray and other imperfections.
13 The finish coat is to have a smooth and glossy appearance when dry, except for
14 areas requiring otherwise, ie Navigation Light screens.

15 Where any coating has been damaged by welding, burning, or other causes, repair
16 the damaged area by blasting or power sanding, ensuring that edges are feathered
17 to make a smooth visual appearance to existing coating and that no rough or sharp
18 edges can be seen between existing and newly applied paint; and no sanding swirls
19 or other marks will remain after the final coat is applied.

20 During inclement weather, provide surface protection (tarpaulins, plastic sheeting,
21 etc.) for areas being painted. Provide heaters and dehumidification equipment as
22 necessary to achieve proper surface temperature and dew point spread, per
23 manufacturers application instructions. All painting shall be done under conditions
24 of temperature and relative humidity specified by reference D.

25 Clean affected spaces and surfaces of paint over-spray immediately. Care shall be
26 taken to prevent damage to such items.

27 Deck coating may be applied by roller or other means recommended by the
28 manufacturer.

29 Painting and inspections shall be scheduled for daylight hours only.

30 Upon completion of blasting and before inspection of a blasted area, all grit shall
31 be removed from the inspection area by blowing down with air or other means.
32 Upon completion of inspection and acceptance of blasted area by WSF Inspector,
33 and before paint application, all blasting media shall be removed from all surfaces.
34 Decks shall be broom clean.

35 The WSF Inspector will inspect all prepared surface areas upon completion of
36 preparation, and before any paint is applied on prepared surfaces. Upon
37 completion of each paint coat, the WSF Inspector will inspect painted area for
38 proper paint application before the next coat is applied. It is the responsibility of
39 the Contractor to ensure that all required inspections are completed before
40 continuing work.

1 **NOTE:**
2 It is incumbent upon the Contractor to provide the WSF Inspector with timely
3 notification in order to preclude delays in required inspections.

4 Failure to obtain the WSF Inspector's approval, where required, may require re-
5 preparation and coating, wholly at the expense of the Contractor.

6 WSF will enlist the services of the paint manufacturer's representative to assist the
7 WSF Inspector in overseeing the preparation of the surfaces and paint application.

8 The WSF Inspector may conduct the following tests:

9 1. Surface profile gage readings.

10 2. Wet and dry film thickness gage readings.

11 3. Holiday inspection, using a high or low voltage holiday detector.

12 4. Surface temperature gauge readings.

13 5. Dry film thickness gauge readings using a Tooke gauge.

14 6. Surface contamination.

15 Ensure that prior to beginning superstructure, blasting the edges of the stripe on
16 the curtain plates and the stacks are measured for applying paint to proper
17 location.

18 Carefully mask and protect machinery, ventilation ducts, tank vents, void vents,
19 name plates, identification labels, valve stems, fire hoses, bright work, glass, trim,
20 wiring, light fixtures and other such items and materials which could be damaged
21 by abrasive blasting, dust associated with the process, or other surface preparation
22 techniques, or which could have their function and appearance degraded by
23 blasting or paint over-spray. If removal is required, **Note and Map** the location of
24 all items removed. Upon completion of painting, all items removed shall be re-
25 installed in their original locations.

26 All plastic and brass signs in affected work areas shall be masked or removed, prior
27 to painting or grit blasting, to prevent damage. If removal is required, **Note and**
28 **Map** the location of signs. Upon completion of final paint coating, all signs
29 removed shall be re-installed in their original location, using new 316 Stainless
30 Steel fasteners where applicable.

31 Fire station boxes, fire ax boxes, fire extinguisher boxes, fire hoses, life ring
32 holders, low-clearance and height signs shall be removed in affected work areas
33 before grit blasting. Upon completion of painting, all items removed shall be
34 painted and re-installed in their original locations.

35 All painted stencils and markings affected by grit blasting or painting shall be re-
36 painted upon completion of final paint coating in their proper color and location.

- 1 All windows shall be protected from blasting or painting by a protective covering,
2 using plywood or other means determined to be satisfactory by the WSF Inspector.
3 Affected windows shall be hose tested upon completion of paint work. Upon
4 completion of cleaning and painting, all windows affected by the work shall be
5 washed.
- 6 Ventilation fans located outboard in overhead shall be blasted after removing or in
7 place. In either case, the motors shall be protected and steps taken to prevent grit
8 from getting into ducting before grit blasting.
- 9 Decks in area of painting shall be protected in order to prevent paint over-spray.
10 All over-spray shall be removed upon completion of painting.
- 11 Deck drains on all deck levels shall be clear of obstructions and proper operation
12 shall be demonstrated to the WSF Inspector before re-delivery.
- 13 Vessel wood name signs, wood doors, wood benches and wood trim, shall be
14 properly protected to prevent damage to coatings, when affected by the Work
15 Specifications, shall be removed, sanded smooth, refinished and/or repainted in the
16 proper colors as required.
- 17 Doors leading to passenger spaces shall be repainted to their proper color as
18 required.
- 19 Care shall be taken when blasting doors to prevent warping or any damage of
20 doors or the surrounding area.
- 21 Life preserver locker release mechanisms shall be tested upon completion of
22 painting to ensure proper operation when affected by the Work Specifications.
- 23 Rescue-boat launching apparatus shall be protected during painting and/or blasting
24 to prevent blasting media from damaging equipment or grit contaminating grease
25 areas. Piping insulation shall be removed or protected before blasting. If removed
26 or damaged, it shall be renewed using new insulation at the Contractor's expense.
- 27 Vent screens installed in vent bells shall be protected against blasting and painting.
- 28 All valve handles shall be painted in their proper colors.
- 29 Ventilation louvers shall be removed, blasted and painted on both sides, and re-
30 installed. Care shall be taken to ensure that blasting media does not enter vents,
31 and louvers are not damaged during grit blasting. Louvers shall be re-installed in
32 their original location, using new 316 Stainless Steel fasteners where required.
- 33 All protective covering shall be removed upon completion of final paint coating.
- 34 All other work under this Contract shall be coordinated with this paint work to
35 ensure a complete and proper coating system.

- 1 **NOTE:**
2 On certain vessels, an impressed current cathodic hull protection system is
3 installed. When applying coating systems on the hull in way of the anodes, ensure
4 that none of the anodes or the reference cells are damaged or covered over with
5 paint.
6
7 Apply special coatings around the anodes under the anti-fouling coating as
8 required by the manufacturer of the impressed current system as applicable.
- 9 **2. COLOR SCHEME**
- 10 Pilothouse tops and the top and bottom of visors, and any other structures on the
11 Texas deck having a canopy top with a curved edge (no coaming), are to be
12 **Medium Green/WSF Green.**
- 13 The tops of all other structures not having a canopy top with a curved edge (has a
14 coaming), including the crew's quarters, the stack house, and machinery houses are
15 to be **Haze Gray.**
- 16 Interior curtain plates and machinery casings are to have a **Haze Gray** dado
17 approx. 39" up from the deck, or follow the height of the first longitudinal below
18 curtain plate window cut-outs.
- 19 Car decks and car ramps in areas that are painted are to be **Dark Gray.**
- 20 All other exterior decks are to be **Haze Gray.**
- 21 All exterior white is to be **Ice Blue White.**
- 22 Stanchions, railings, cap-rails, and both sides of all screens are to be painted
23 **Medium Green/WSF Green** on the Texas deck/Sun deck, and the Bridge deck.
- 24 Railing on the car deck ramps and on the elevator access ramps shall be painted
25 solid **Signal Yellow.**
- 26 All curbing against the curtain plating is to have the vertical surfaces and the first
27 six inches (6") of the horizontal surface painted **Signal Yellow.** The remainder of
28 the curbing, extending to the curtain plate, is to be **Haze Gray.**
- 29 All curbing against **machinery** casing and all round bumpers are to be solid **Signal**
30 **Yellow.**
- 31 The exterior curtain plate stripe above the guard is to be **Medium Green/WSF**
32 **Green.**
- 33 Stacks shall be painted **Ice Blue White** with a **Medium Green/WSF Green** stripe
34 at the bottom and a **Black** stripe at the top.
- 35 All fire stations, emergency stations, fire ax boxes etc., are to be **Signal Red.**
- 36 Exterior gutters between decks are to be painted **Haze Gray.**

1 Issaquah Class Vessels shall have their masts painted **Flat Black** from the bottom
2 edge of the Radar platform up the entire height of the mast.

3 All exhaust stack tubes are to be **Flat Black** good to 1300 degrees f.

4 The exterior side of doors is to be painted **Blue White**; the exterior side of all
5 machinery casing doors is to be painted **Haze Gray** unless otherwise specified.

6 The interior of all shelter decks are to be **Blue White** with a **Haze Gray** dado
7 from the deck up six inches (6"), including the passenger cabin bulkheads.

8 All vessels are to have a six inch (6") **Haze Gray** dado up from the deck around
9 the exterior passenger cabin, pilothouse and promenade bulkheads.

10 Promenade decks, pickle-fork decks, and Texas decks are to be coated with **Haze**
11 **Gray** non-skid in traffic areas. No non-skid is to be applied under seating, or
12 within four inches (4") of bulkheads, coamings, or other vertical surfaces.

13 Car deck non-skid walkways are to be painted with **Dark Gray** non-skid and
14 striped with a four inch (4") **Signal Yellow** stripe on each outside edge.

15 Car decks are to have **Black** and **Signal Yellow** striping in way of elevator
16 entrances, entry ways to machinery casings, and emergency gear lockers. Car deck
17 hatches to steering gear spaces, emergency escapes, etc., are to be **Signal Yellow**.

18 3. ALUMINUM SURFACES

19 Grit blasting material shall be of non-ferrous material and approved by WSF:

20 A. 30 Mesh Garnet

21 B. Aluminum Oxide

22 C. Ilminite

23 D. Other material as authorized by WSF

24 Immediately after surface preparation of new aluminum, remove all surface
25 contaminates, obtain concurrence from WSF's Inspector, and apply the applicable
26 primer to prevent surface oxidation.

27 Under no circumstances leave freshly prepared aluminum overnight without
28 primer. Should freshly prepared aluminum be left un-primed, the Contractor shall
29 remove all traces of contamination and surface oxidation. All re-work shall be
30 wholly at the expense of the Contractor.

31 Application of primer coats later the same day of preparation will only be allowed
32 in an area where the Contractor has exercised humidity control sufficient to
33 prevent the occurrence of any surface oxidation and after the inspection and
34 approval of that area by WSF just prior to coating.

35 Unless otherwise specified, the coating system shall be the products of/or
36 recommended by the INTERNATIONAL Paint Co.

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